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(12) **United States Patent**
Kanenari

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(54) **TIRE INFORMATION OBTAINING DEVICE,
TIRE CONDITION MONITORING SYSTEM,
AND METHOD FOR RECOVERING
PUNCTURE REPAIR LIQUID**

(58) **Field of Classification Search**

CPC .. B60C 23/0408; B60C 23/04; B60C 23/061;
G01M 17/022
USPC 73/146.5, 146.3, 146.4, 146.2, 146;
141/4

See application file for complete search history.

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(56) **References Cited**

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(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 176 days.

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(87) PCT Pub. No.: **WO2013/031220**

Kanenari WO 2011064991 Transmission device for transmitting
information about tire condition and tire condition monitoring sys-
tem.*

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(Continued)

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(57)

ABSTRACT

(51) **Int. Cl.**

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B60C 23/04 (2006.01)

(Continued)

A tire information obtaining device provided in a tire cavity
region for obtaining tire information related to a condition of
a tire includes: a sensor that detects the state of gas in the tire
cavity region as the tire information; a valve; and a housing
having an internal space for containing the sensor in a state of
being compartmentalized from the tire cavity region, a ven-
tilation hole for allowing communication between the inter-
nal space and the tire cavity region, and a communication hole
connected to a cavity region side opening part of the valve at
an end portion on the tire cavity region side and allowing
communication between the cavity region side opening part
and the tire cavity region.

(52) **U.S. Cl.**

CPC **B60C 23/04** (2013.01); **B29C 73/02**
(2013.01); **B60C 23/0494** (2013.01); **B60C**
29/062 (2013.04); **B29C 73/166** (2013.01)

19 Claims, 17 Drawing Sheets

